REMARKS

The Examiner's comments in the Office Action mailed December 20, 2006 have been carefully considered. In this response, claims 24 and 27 have been canceled without prejudice or disclaimer. The subject matter of claims 24 and 27 has been incorporated into claims 23 and 26, respectively. Claims 29-37 also have been canceled after being restricted out of the application. Applicants reserve the right to pursue claims 29-37 in a later-filed continuing application.

Claims 12, 23, 25-26, and 28 remain pending in the application. Claims 23 and 26 have been amended to clarify the position of the transducer with respect to the side opening of the stent. Support for these amendments can be found throughout the specification and the figures of the pending application, e.g., in FIG. 1. No new matter has been added.

Reexamination and allowance of the pending claims is respectfully requested.

Priority

The claims of the present application have not been accorded the priority benefit of provisional application 60/155,611, filed September 23, 1999, because the Examiner states they are not fully supported by the provisional application. Applicants respectfully traverse the rejection at least with respect to claim 26.

Claim 26 recites, in part, a stent and an ultrasound transducer positioned within the stent in axial and radial alignment with the side opening. The stent has a wall defining a side opening. The ultrasound transducer is configured to transmit and receive ultrasound signals through the side opening to align the side opening relative to the ostium of the branch vessel.

Applicants assert all of the features of claim 26 are disclosed on pages E1-E3 and in FIGS. 1-6 of Part E (Sheets 1-3 of 3) of the '611 provisional application. Applicants, therefore, respectfully request claim 26 be accorded benefit of the September 23, 1999 priority date.

35 U.S.C. § 103

Claims 12, and 23-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Von Oepen (U.S. Patent No. 6,048,361) in view of O'Connor (U.S. Patent No. 6,398,792), Solomon (U.S. Patent No. 5,846,204) and Jang et al. (U.S. Patent No. 5,749,848). Claims 24 and

27 have been canceled without prejudice or disclaimer, thereby rendering the rejection with respect to these claims moot. With respect to claims 12, 23, 25, 26, and 28, Applicants respectfully traverse the rejection.

Claim 12 recites, in part, an ultrasound transducer housing having a passage extending through a *central* portion of the housing. The positioning guidewire is at least partially disposed in a catheter lumen. A positioning guidewire passes through the transducer housing passage.

In contrast, none of the cited references, either alone or in combination, disclose or suggest an ultrasound transducer housing having a passage extending through a *central* portion of the housing, which is at least partially disposed in a catheter lumen.

The Office Action admits Von Oepen does not disclose or suggest an ultrasound transducer being at least partially disposed in a catheter lumen and having a passage extending through a central portion of the housing, but asserts O'Connor, Solomon, and Jang overcome these shortcomings. Applicants respectfully disagree.

O'Connor does not disclose or suggest an ultrasound transducer housing having a passage that extends through a central portion of the housing and through which a positioning guidewire passes. Rather, O'Connor discloses a first transducer 24 and a second transducer 32, 42 carried on a catheter 20 having multiple internal lumens. One of the internal lumen slides over a guidewire and another internal lumen carries wires for electrical energy or imaging. No particular arrangement of these lumens is disclosed and the lumens are not shown in the drawings. See e.g. col. 3, lines 29-33.

No motivation is provided in O'Connor or any of the cited references to arrange the internal lumens of O'Connor so that the guidewire lumen extends through a *central* portion of the transducer housing. O'Connor does not even show a transducer housing in the figures. Rather, each transducer 24, 32, 42 is shown schematically in the figures. O'Connor, therefore, does not disclose or suggest an ultrasound transducer housing having a passage, through which a positioning guidewire passes, extending through a central portion of the housing.

Solomon also does not disclose or suggest an ultrasound transducer housing having a passage, through which a positioning guidewire passes, extending through a central portion of

the housing. Rather, a guide wire sleeve 108 is attached to an exterior of a housing 104 (see FIG. 1). The guide wire sleeve 108 does not extend through a *central* portion of the housing 104.

Jang also does not disclose or suggest an ultrasound transducer housing having a passage, through which a positioning guidewire passes, extending through a central portion of the housing. Rather, a work element 75 including an ultrasonic transducer is advanced through a work element lumen 23, whereas a guidewire is advanced through an adjacent guidewire lumen 25. See col. 10, lines 17-25 and FIG. 3.

For at least these reasons, Von Oepen would not lead a person having skill in the art to the invention of claim 12, even in view of O'Connor, Solomon, and Jang. Withdrawal of the rejection and allowance of claim 12 is respectfully requested. Applicants do not otherwise concede the correctness of the rejection and reserve the right to make additional arguments if necessary.

Claim 23 recites, in part, an ultrasound transducer positioned within a stent in axial and radial alignment with a side opening of the stent.

In contrast, none of the cited references, either alone or in combination, disclose or suggest an ultrasound transducer positioned within a stent in axial and radial alignment with a side opening of the stent.

As noted above, the Office Action admits Von Oepen fails to disclose or suggest an ultrasound transducer, but asserts O'Connor, Solomon, and Jang overcome the shortcomings of Von Oepen. Applicants respectfully disagree.

O'Connor does not disclose or suggest an ultrasound transducer positioned within a stent in axial and radial alignment with a side opening of the stent. The stent in O'Connor does not have a side opening. Even if the stent in O'Connor was modified to include the side opening disclosed in Van Oepen, no motivation is provided in either reference to align the second transducer 32, 42 (or the first transducer 24) of O'Connor with the side opening. O'Connor merely discloses using the second transducer 32, 42 to observe the obstruction and the results of the radiation process. See e.g., *O'Connor*, col. 4, lines 1-4. O'Connor does not disclose or suggest viewing the body lumen to align a stent.

Jang does not overcome the shortcomings of Von Oepen and O'Connor. Jang also does not disclose or suggest an ultrasound transducer positioned in axial and radial alignment with a side opening of a stent. The transducer in Jang does not image the body lumen through a wall of the prosthesis (i.e., stent). Rather, the transducer in Jang determines the position of *edges* of the prosthesis to determine the position of the prosthesis in the body lumen. See e.g., *Jang*, col. 10, lines 21-25. The work element 75 (including the transducer) is shown exterior of the prosthesis 90 in FIGS. 1 and 5 of Jang.

No motivation is provided in Jang to align the transducer with an opening of the prosthesis. Jang does not even disclose positioning the work element 75 within the prosthesis 90. Therefore, even if the teachings of Jang were combined with the systems described in Von Oepen and O'Connor, no motivation is provided in any of these references to align a transducer housing axially and radially with a side opening of a stent. None of these references suggests an advantage to so aligning a transducer housing.

Solomon does not disclose positioning a transducer within a stent. Moreover, Solomon also fails to disclose or suggest an ultrasound transducer positioned in axial and radial alignment with a side opening of a stent.

For at least these reasons, Von Oepen would not lead a person having skill in the art to the invention of claim 23, even in view of O'Connor, Jang, and Solomon. Claim 25 depends from claim 23 and is allowable for at least the same reasons. Withdrawal of the rejection and allowance of claims 23 and 25 is respectfully requested. Applicants do not otherwise concede the correctness of the rejection and reserve the right to make additional arguments if necessary.

Claim 26 recites, in part, an ultrasound transducer positioned within a stent in axial and radial alignment with a side opening of the stent.

In contrast, none of the cited references, either alone or in combination, disclose or suggest an ultrasound transducer positioned within a stent in axial and radial alignment with a side opening of the stent for at least the reasons discussed above with respect to claim 23. Claim 28 depends from claim 26 and is allowable over the cited references for at least the same reasons. Withdrawal of the rejection and allowance of claims 26 and 28 is respectfully requested.

Applicants do not otherwise concede the correctness of the rejection and reserve the right to make additional arguments if necessary.

Conclusion

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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